

Use of Passive Samplers at Superfund Sites

The selection of appropriate sediment characterization techniques at Superfund sites is being influenced by research demonstrating toxicity and bioaccumulation are often strongly correlated with dissolved phase concentrations since these directly reflect the "bioavailability" of contaminants in the environment. However, measuring dissolved phase chemicals in complex environmental systems remains technically challenging. Several passive sampling techniques for selectively measuring dissolved hydrophobic organic contaminants (HOCs) have been developed. These techniques include solid phase microextraction (SPME), polyethylene devices (PEDs), and polyoxymethylene (POM). The techniques have been evaluated in laboratory studies, but further field application is very much needed especially if future applications are to include use by remedial project managers (RPMs) at contaminated sites.

Objectives of research performed at the Atlantic Ecology Division will include: (1) Compare the utility and effectiveness of several types of passive samplers for monitoring water column and sediment concentrations of several contaminants including legacy and emerging chemicals, and (2) Generate information useful to RPMs in their selection of passive sampler tools for monitoring legacy and emerging contaminants at contaminated sites around the country. For example, develop monitoring approaches for tracking water column dissolved phase concentrations of legacy chemicals around areas undergoing remediation activity.

For more information please email:

Robert M. Burgess, Ph.D.
Research Environmental Scientist
U.S. Environmental Protection Agency
ORD/NHEERL - Atlantic Ecology Division
27 Tarzwell Drive
Narragansett, Rhode Island, 02882
401-782-3106 (phone)
401-782-3030 (fax)
Burgess.Robert@epamail.epa.gov